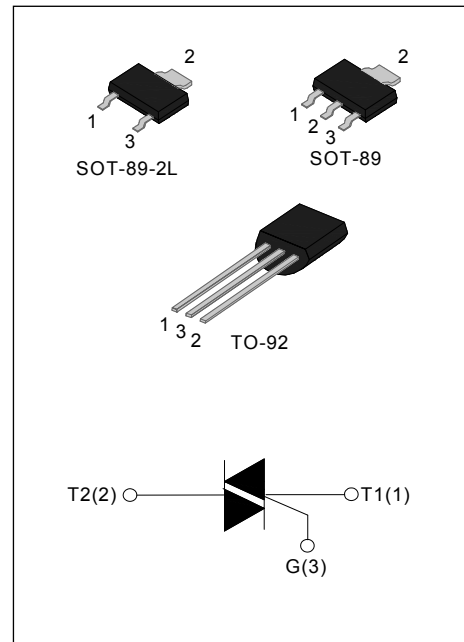


DESCRIPTION:

With low holding and latching current, YR131 series triacs are especially recommended for use on middle and small resistance type power load.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
I_{TSM}	16	A
V_{TM}	≤ 1.5	V


ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit	
Storage junction temperature range	T_{stg}	-40 - 150	$^{\circ}C$	
Operating junction temperature range	T_j	-40 - 125	$^{\circ}C$	
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	600/800	V	
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	600/800	V	
Non repetitive surge peak off-state voltage	V_{DSM}	$V_{DRM} + 100$	V	
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V	
RMS on-state current	TO-92 ($T_C=51^{\circ}C$)	$I_{T(RMS)}$	1	A
	SOT-89 SOT-89-2L/ ($T_C=70^{\circ}C$)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	16	A	
I^2t value for fusing ($t_p=10ms$)	I^2t	1.28	A^2s	
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	20	$A/\mu s$	

1A TRIACs

Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T	D	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II - III	MAX	5	5	mA
		IV		5	10	
V_{GT}		ALL	MAX	1.3		V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	I - III	MAX	5	5	mA
		II - IV		10	20	
I_H	$I_T=200\text{mA}$		MAX	5	7	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	15	50	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=1.4\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	μA
I_{RRM}		$T_j=125^\circ\text{C}$	500	μA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	$^\circ\text{C/W}$
		SOT-89 SOT-89-2L	31	

FIG.1: Maximum power dissipation versus RMS on-state current

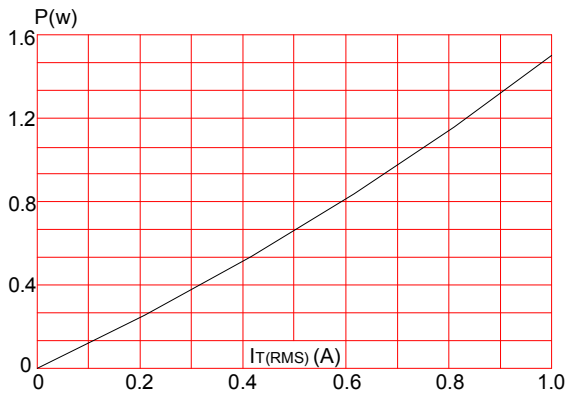


FIG.2: RMS on-state current versus case temperature

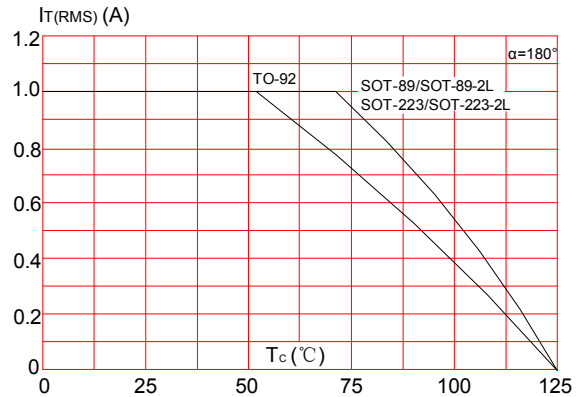


FIG.3: Surge peak on-state current versus number of cycles

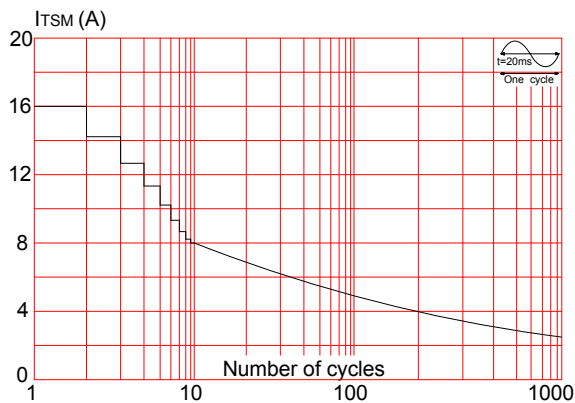


FIG.4: On-state characteristics (maximum values)

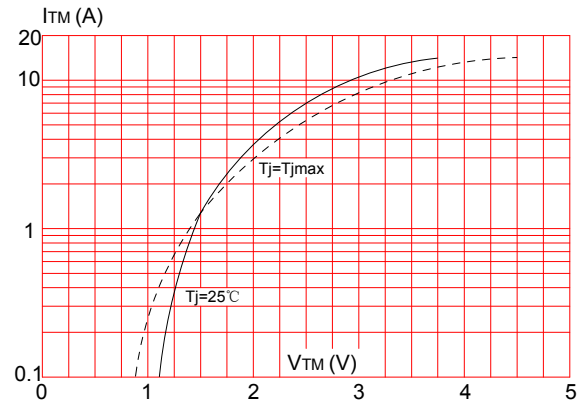


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of $I^2 t$ ($di/dt < 20\text{A}/\mu\text{s}$)

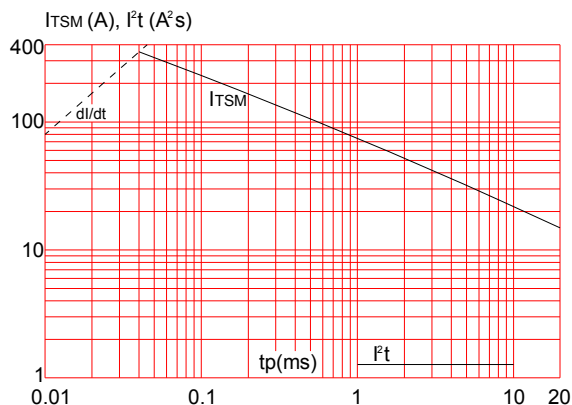


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

